Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1. (Currently Amended) An apparatus for transmitting a sequence for channel estimation through M transmission antennas in a mobile communication system, the apparatus comprising:

a sequence generator for generating the sequence for the channel estimation;

P encoders for receiving P information bit streams and encoding the received P information bit streams with a space-time trellis code (STTC);

M modulators for modulating information bit streams encoded from the P encoders as a punctured code into modulation symbol streams respectively;

M puncturers for puncturing at least one modulation symbol in a predetermined position at each transmission antenna for each of the modulation symbol streams output from the M modulators; and

M multiplexers individually connected to the M transmission antennas, for multiplexing each of the punctured signals output from the M puncturers and the sequence to be inserted in the predetermined position,

wherein at least one of puncturing positions for the modulation symbol streams is different from other puncturing positions at each antenna in a same transmission period.

Claim 2. (Original) The apparatus of claim 1, wherein the M puncturers each have a same number of modulation symbols where the sequence is inserted, for the modulation symbol streams output from the M modulators.

Claim 3. (Original) The apparatus of claim 1, wherein the M puncturers each periodically repeat a position where the sequence is inserted, for the modulation symbol streams output from the M modulators.

Claim 4. (Original) The apparatus of clam 1, wherein the sequence is a pilot sequence.

Claim 5. (Canceled)

Claim 6. (Previously Presented) The apparatus of claim 1, wherein if M is 2 and a number of symbols constituting the modulation symbol stream is 4, a position where the sequence is inserted is determined according to a puncturing matrix P_1 defined as

$$P_1 = \begin{bmatrix} 1 & 1 & 1 & 0 \\ 1 & 0 & 1 & 1 \end{bmatrix}$$

wherein a column corresponds to a transmission period, a row corresponds to a transmission antenna, and the sequence is inserted in a position of an element "0".

Claim 7. (Previously Presented) The apparatus of claim 1, wherein if M is 2 and a number of symbols constituting the modulation symbol stream is 6, a position where the sequence is inserted is determined according to a puncturing matrix P_2 defined as

$$P_2 = \begin{bmatrix} 1 & 1 & 1 & 1 & 1 & 0 & 1 & 1 & 1 & 1 & 0 \\ 1 & 1 & 0 & 1 & 1 & 1 & 1 & 0 & 1 & 1 & 1 \end{bmatrix}$$

wherein a column corresponds to a transmission period, a row corresponds to a transmission antenna, and the sequence is inserted in a position of an element "0".

Claim 8. (Currently Amended) A method for transmitting a sequence for channel estimation in a mobile communication system, the method comprising the steps of:

receiving P information bit streams and encoding the received P information bit streams with a space-time trellis code (STTC);

modulating information bit streams encoded as a punctured code into modulation symbol streams respectively;

puncturing at least one modulation symbol in a predetermined position at each transmission antenna for each of the modulation symbol streams;

generating the sequence for the channel estimation;

multiplexing each of the punctured modulation symbol streams at each transmission antenna and the sequence to be inserted in the predetermined position; and

transmitting the multiplexed signals through M transmission antennas,

wherein at least one of puncturing positions for the modulation symbol streams is different from other puncturing positions at each transmission antenna in a same transmission period.

Claim 9. (Previously Presented) The method of claim 8, wherein number of sequences inserted in the modulation symbol streams output from M modulators for modulating the information bit streams are identical.

Claim 10. (Previously Presented) The method of claim 8, wherein the predetermined position where the sequence is inserted is periodically repeated for the modulation symbol streams output from M modulators for modulating the information bit streams.

Claim 11. (Original) The method of claim 8, wherein the sequence is a pilot sequence.

Claim 12. (Previously Presented) The method of claim 8, wherein if M is 2 and a number of symbols constituting the modulation symbol stream is 4, the predetermined position where the sequence is inserted is determined according to a puncturing matrix P_1 defined as

$$P_1 = \begin{bmatrix} 1 & 1 & 1 & 0 \\ 1 & 0 & 1 & 1 \end{bmatrix}$$

wherein a column corresponds to a transmission period, a row corresponds to a transmission antenna, and the sequence is inserted in a position of an element "0".

Claims 13-20 (Canceled)